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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,374

04/15/2005

Akira Kuramori

OGW-0361

1233

7590 05/15/2007
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EXAMINER

KOTTER, KIP T

ART UNIT

PAPER NUMBER

3617

MAIL DATE

DELIVERY MODE

05/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,374	KURAMORI ET AL.	
	Examiner	Art Unit	
	Kip Kotter	3617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation "the annular shell is composed of metal with a yield strength of 400 Mpa or more" is previously set forth in claim 1.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hellweg et al. (U.S. Patent No. 6463974 B1; previously cited and applied) in view of Payne et al. (U.S. Patent No. 4823854; previously cited and applied) and Boiocchi et al. (U.S. Patent No. 7100654 B2; previously cited and applied).

Hellweg et al. discloses a tire wheel assembly in which a pneumatic tire **34** is fitted to a rim **8** of a wheel **1** and a run-flat support **2** is inserted in a cavity section (unlabeled) of the pneumatic tire **34**, the run-flat support **2** including an annular shell **3** and a pair of left and right

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elastic rings 4, 5, the annular shell 3 having a support surface projecting to the outer circumferential side as shown in Fig. 1 and leg parts 6, 7 extending along both sides of the support surface, and the elastic rings 4, 5 supporting the leg parts 6, 7 of the annular shell 3 on the rim 8, wherein the run-flat support is compressed when mounted on the rim as described in column 5, lines 19-26.

Hellweg et al. does not disclose expressly that a relation $(W2-W1)/W1=0.02-0.100$ is satisfied assuming that $W1$ is an interval between abutting points where the pair of left and right elastic rings abut on the inner surface of the tire when the pneumatic tire and the run-flat support are mounted on the rim and $W2$ is an interval between the abutting points when the run-flat support is not mounted. Nor does Hellweg et al. disclose expressly elastic rings with a JIS-A hardness of 50 to 65 and an annular shell composed of metal with a yield strength of 400 MPa or more.

Payne et al. teaches a tire wheel assembly wherein $(W2-W1)/W1=0.0172$ for the run-flat support as shown in Fig. 11 and described in detail in column 13, lines 38-55 ($W1=6.96''$ and $W2=7.08''$, thus $(W2-W1)/W1=.0172$). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have used a run-flat support which upon mounting compresses a desired amount, such as taught by Payne et al., for the tire wheel assembly of Hellweg et al. to prevent the tire bead from being unseated and the run-flat support from buckling.

Furthermore, Applicant has not disclosed that having $(W2-W1)/W1=0.02-0.100$ as opposed to $(W2-W1)/W1=0.015-0.100$ solves any stated problem or is for any particular purpose. It appears that a tire wheel assembly wherein $(W2-W1)/W1=0.0172$ would perform

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equally well with the claimed $(W2-W1)/W1=0.02-0.100$ as demonstrated by Table 1 of Applicant's disclosure. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the tire wheel assembly of Hellweg et al., as taught by Payne et al., such that the run flat support upon mounting compresses within the range $(W2-W1)/W1=0.02-0.100$ because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the prior art.

Boiocchi et al. teaches an annular shell composed of spring steel with a yield strength between 1200 MPa and 1300 MPa (column 7, lines 60-63). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have used an annular shell composed of metal with a yield strength of 400 MPa or more, such as taught by Boiocchi et al., for the tire wheel assembly of Hellweg et al., to provide rigid support for run-flat driving and help prevent plastic deformation of the annular shell when mounted on the rim.

To employ elastic rings with a JIS-A hardness of 50 to 65 would have been obvious to one of ordinary skill in the art as it is well known and recognized in the art to select a material for the elastic rings with the aforementioned property as it is well within the ability of one of ordinary skill in the art to select known values of hardness from a range of known materials to provide adequate support for run-flat driving and help prevent the annular shell from being plastically deformed when mounted on the rim.

Response to Arguments

4. Applicant's arguments filed April 2, 2007 have been fully considered but they are not persuasive.

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In response to Applicant's argument that Payne et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Payne et al. and the Applicant's claimed invention pertain to run-flat systems. Moreover, the widths of 6.96 and 7.08 of Payne et al. are analogous to the widths represented by W1 and W2 as defined by claim 1 because the width of 6.96 is the interval between abutting points where the pair of knees **68**, **70** of the annular band **60** of the run-flat insert system abut on the inner surface of the tire against the tire beads **80**, **82** when the pneumatic tire and the run-flat are mounted on the rim, and the width of 7.08 is the interval between the abutting points when the run-flat insert system is not mounted. Further, the annular band **60** of Payne et al. is analogous to Applicant's elastic rings because it supports the run-flat **120** while abutting on left and right tire beads to ensure the stability of the run-flat.

In response to applicant's argument that Payne et al. fails to disclose or suggest the use of elastic rings, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Payne et al. is only being used as a teaching reference to modify Hellweg et al. As mentioned above in paragraph 3, Hellweg et al. discloses a pair of elastic rings **4**, **5** and also discloses the run-flat support is compressed when mounted on the rim as described in column 5, lines 19-26.

In response to Applicant's argument that the prior art fails to read on the claimed relationship $(W2-W1)/W1 = 0.02 \text{ to } 0.100$, note paragraph 3 above.

In response to Applicant's argument that no evidence has been provided for the claimed JIS-A hardness of 50 to 65 for the elastic rings, it is well within the ability of one of ordinary skill in the art to select known values of hardness from a range of known materials for the elastic rings.

In response to applicant's argument that Boiocchi et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Boiocchi et al., Hellweg et al. and the Applicant's claimed invention pertain to run-flat systems. Moreover, the annular body member 5 of Boiocchi et al., the annular shell 3 of Hellweg et al. and the annular shell of the Applicant's claimed invention are analogous because they are run-flats mounted within the tire that enable run-flat driving when the tire loses pressure. As such, it would have been obvious to one of ordinary skill in the art to look to other run-flats in run-flat systems, such as taught by Boiocchi et al., to modify the run-flat of Hellweg et al.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kip Kotter whose telephone number is (571) 272-7953. The examiner can normally be reached on 9:00-4:00pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on (571) 272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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RUSSELL D. STORMER
PRIMARY EXAMINER 5/6/07